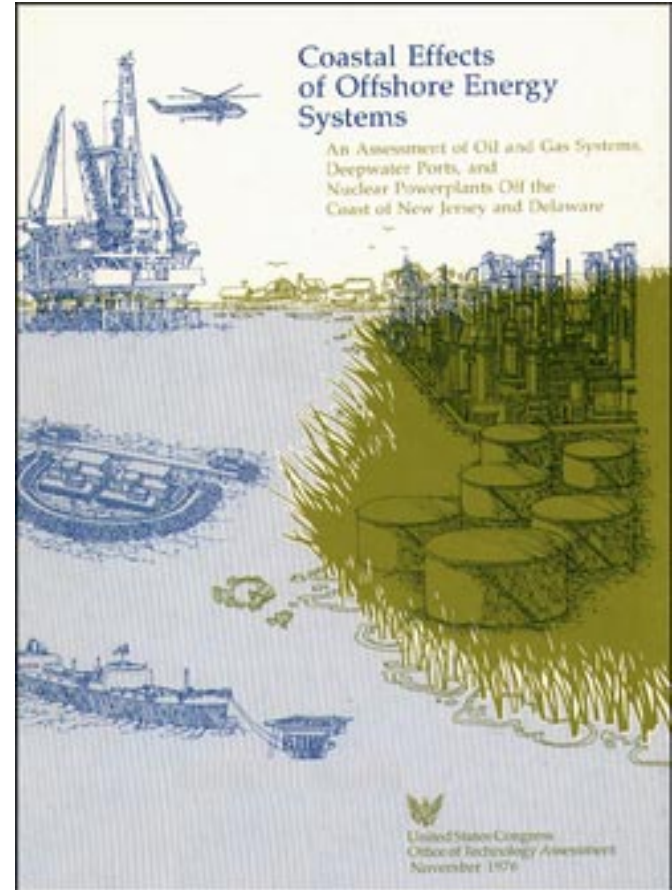


*Coastal Effects of Offshore Energy Systems:  
An Assessment of Oil and Gas Systems,  
Deepwater Ports, and Nuclear Powerplants  
Off the Coasts of New Jersey and Delaware*

November 1976

NTIS order #PB-274033



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Congress of the United States

OFFICE OF TECHNOLOGY ASSESSMENT

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Nov 11 1976

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The Honorable Ernest F. Hollings  
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National Ocean Policy Study  
United States Senate  
Washington, D. C. 20510

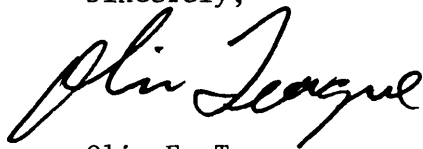
Dear Mr. Chairman:

On behalf of the Board of the Office of Technology Assessment, we are forwarding to you the report Coastal Effects of Offshore Energy Systems: Oil and Gas, Deepwater Ports, and Floating Nuclear Powerplants.

The report consists of two volumes: the first covers the findings and analysis and the second provides back-up material. This report concludes OTA'S assessment of the onshore effects which may be associated with the implementation of one or a combination of the three technologies studied off the coast of New Jersey and Delaware.

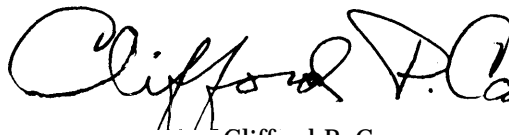
This study was requested by you in your capacity as Chairman of the National Ocean Policy Study, in a letter dated January 14, 1974. The request was accepted and the study authorized by the Technology Assessment Board on July 23, 1974. A draft version of the offshore oil and gas section of this report was transmitted to NOPS in April 1976.

Sincerely,



Olin E. Teague  
Chairman

Sincerely,



Clifford P. Case  
Vice Chairman

Enclosure

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EMILIO Q. DADDARIO

Congress of the United States

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WASHINGTON, D.C. 20510

EMILIO Q. DADDARIO

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DANIEL V. DE SIMONE

DEPUTY DIRECTOR

Nov 11 1976

The Honorable Olin E. Teague  
Chairman of the Board  
Office of Technology Assessment  
Congress of the United States  
Washington, D. C. 20515

Dear Mr. Chairman:

The enclosed report, Coastal Effects of Offshore Energy Systems: Oil and Gas, Deepwater Ports, and Floating Nuclear Powerplants, presents OTA'S analysis of the probable onshore impacts of implementing one or a combination of the three technologies studied off the coast of New Jersey and Delaware.

The assessment was requested on January 14, 1974, by Senator Ernest F. Hollings, Chairman of the National Ocean Policy Study. It was prepared by the Oceans Program Assessment staff, and has been reviewed extensively within OTA, by the Ocean Assessment Advisory Panel, and by personnel from the Federal agencies, States, and industries which will be affected by the study.

The report specifically (1) delineates the possible actions Congress may want to consider in future legislation and oversight dealing with offshore oil and gas, deepwater ports, and floating nuclear powerplants; (2) analysis past and future government actions in preparing for the three technologies off New Jersey and Delaware; (3) presents the possible economic, political, social, institutional, and legal impacts of implementing the technologies; and (4) reviews the alternatives to the technologies or the implications of not implementing the technologies in the study area.

Some of the analysis required for the overall assessment has already been made available to Congress and used by committees responsible for developing amendments to the Coastal Zone Management Act and amendments to the Outer Continental Shelf Lands Act of 1953. The assessment also resulted in the preparation and publication of three other studies desired by Congress for specific uses. Those were: "An Analysis of the Department of the Interior's Proposed Acceleration of Development of Oil and Gas on the Outer Continental Shelf," "An Analysis of the

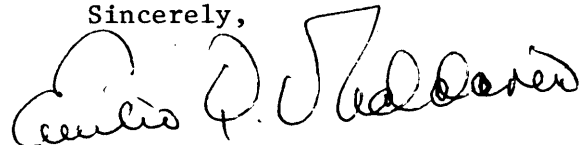
The Honorable Olin E. Teague  
Page 2

Feasibility of Separating Exploration from Production of Oil and Gas on the Outer Continental Shelf," and "Oil Transportation by Tankers: An Analysis of Marine Pollution and Safety Measures."

This assessment was the first major undertaking by OTA to include a large-scale public participation program. The public participation element was an effort to bring about an exchange of information between OTA and citizens in the study region. The two-way flow of information was intended to contribute to the public's understanding of the technologies being assessed and to obtain information directly from the affected citizens about impacts of greatest public concern. The data obtained contributed to OTA'S effort to insure that these factors were adequately addressed in the study so as to assist the Congress in anticipating, understanding, and considering to the fullest extent possible, the consequences of technological application as mandated by the Technology Assessment Act of 1972. The contributions of the public participation program are detailed in the report.

This transmittal includes two volumes: the assessment report itself and working papers which are back-up material for the findings and discussions in the assessment report.

Sincerely,

A handwritten signature in black ink, appearing to read "Emilio Q. Daddario", written in a cursive style.

EMILIO Q. DADDARIO  
Director

Enclosures

# ACKNOWLEDGMENTS

This report was prepared by the Office of Technology Assessment Oceans Program staff. The staff wishes to acknowledge the assistance and cooperation of the following contractors and consultants in the gathering and formulation of the background data:

The BDM Corporation

Pamela L. Baldwin

Dr. Robert L. Bish

Dr. Irving C. Bupp, Jr.

Dr. Michael J. Canoy

Dresser Industries

Ecological Analysts, Inc.

Energy and Environmental Analysis,  
Inc.

Engineering Computer Optecnomics,  
Inc.

John Gardenier

Intermountain Technologies, Inc.

Hittman Associates, Inc.

Lawrence-Allison and Associates, Inc.

Thomas B. Neville

Nuclear Engineering Services, Inc.

Potomac Policy Group

Princeton University

Rutgers University

Dr. Stephen N. Salomon

Robert Taggart

Dr. Irvin L. White

The staff further wishes to acknowledge those organizations, both public and private, which reviewed and commented on various draft documents circulated by OTA or provided other types of assistance:

American Institute of Merchant Shipping

American Littoral Society

American Petroleum Institute

American Trust of Merchant Shipping

Amoco Oil Co.

Atlantic City Electric Co.

Atlantic City, N.J., Division of Civil Planning

Atlantic County Citizens Council on the Environ-  
ment

The Honorable Dolph Briscoe, Jr., Governor of  
Texas

Brookhaven National Laboratory

Bureau of Land Management, U.S. Department of  
the Interior

The Honorable Brendan T. Byrne, Governor of  
New Jersey, and his staff

Cape May, N. J., Planning Board

Chesapeake Utilities

Citizens Energy Council

Clean Atlantic Associates

Coast Guard, U.S. Department of Transportation

Conservation Foundation, The

Council on Environmental Quality

Deepwater Ports Office, U.S. Department of Com-  
merce

Delaware Bay Transportation Co.

Delaware River and Bay Authority

Delaware State Planning Office

Delmarva Power and Light Co.

E.J. du Pont de Nemours & Co.

The Honorable Edwin W. Edwards, Governor of  
Louisiana

Elizabethtown Gas Co.

Environmental Policy Center

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EXXON Corp.

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Geological Survey, U.S. Department of the Interior

Getty Oil Co.

Jersey Central Power and Light Co.

Keys to Education for Environmental Protection  
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 tion, U.S. Department of Commerce  
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 Texas A & M University, Ocean Engineering  
 Program  
 The Honorable Sherman W. Tribbitt, Governor of  
 Delaware, and his staff  
 United Auto Workers  
 U.S. Army Corps of Engineers  
 U.S. Environmental Protection Agency  
 U.S. Nuclear Regulatory Commission  
 University of South Carolina Institute for Marine  
 Biology and Coastal Research  
 Virginia Seafood Council  
 Watch Our Waterways  
 The Wilderness Society  
 Zero Population Growth



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## LIST OF WORKING PAPERS

The following working papers have been prepared by OTA and include background data, detailed analyses, and further documentation of specific subjects referenced throughout this assessment. The working papers 1 through 10 are published as volume II of this report (OTA-O-38) and maybe ordered through the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Stock No. 052-003-00246-9.) price \$11.75.

1. Federal and State Regulation of the Three Offshore Energy Technologies
2. Biological Impacts of Three Offshore Energy Technologies
3. Oil Spill Risk Assessment for OCS Oil and Gas and Deepwater Port Development
4. Air and Water Quality Impacts of Oil and Gas Processing Facilities
5. Regional Energy Supply and Demand Considerations
6. Fiscal Effects of OCS Oil and Gas and Deepwater Port Development
7. Environmental Studies for OCS Oil and Gas Development
8. Safety Analysis for Floating Nuclear Powerplants
9. Analysis of Fuel and Waste Handling and Decommissioning for Floating Nuclear Powerplants
10. Economic Considerations for Floating Nuclear Powerplants